CHEPTER II

REVIEW OF RELATED LITERATURE

Generally review of literature related to the research problem or topic is a direction to find out the reality and the beneficial nature and the reliability of a work undertaken, keeping in mind the materials that are available in concerned to the topic, because review will gives the investigator a vivid idea of what he/she should do and how he/she should go about his investigation. Clarke and Clarke (1970) gave the impetus of review of related literature as that of before completing a plan for in research comprehension, the investigator needs to conduct a literature search in the area of the proposed investigations. The purpose of the study was to search the effect of various packages of yogic practices on selected psycho-physiological, variables. The researcher studied and analyzed several theses, journals, books, articles, magazines and collected relevant materials for this study which are mentioned in this chapter.

Rejinadevi & Ramesh (2017) conducted a study to find out the “effect of yogic practices on selected physiological variables among basketball players.” For the purpose of the study forty male basketball players were selected as subjects from Nadar Mahajana Sangam S Vellaichamy Nadar College, Madurai, Tamilnadu and their age ranged from 18 to 25 years. The selected subjects were divided randomly in to two groups of twenty subjects each. Experimental group participated in yogic programme for twelve weeks duration in addition to their regular professional activities of the college as per the curriculum. The control group subjects were stayed free without Yogic exercise in a same period. The criterion variables systolic blood pressure and diastolic blood pressure was measured through sphygmomanometer. The present statistical analysis suggest that there was a significant improvement in the experimental group on selected (systolic blood pressure, diastolic blood pressure) variables when compared to the control group.

Vishnu (2017), Conducted a study entitled “Impact of yogic practices on physical and physiological parameters of college male handball players”. For the purpose of the study 30 inter-collegiate male handball players selected randomly assigned in to two equal groups (no.15each). Group- I underwent yogic practices
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group (alternate days) and Group - II was acted as control group not given any sort of training except their routine work. Experimental group underwent Yogic practices programme for a period of twelve week, three day a week. The parameter studied included namely shoulder strength, Breath Holding Time, Resting Heart Rate variable. The collected of data before and after training period of 12 weeks. Impact of yogic practices was statistically analyzed and find out the significant improvement between pre and post-test in experimental group, improved shoulder strength, and Breath Holding Time, Resting Heart Rate college male handball players. So this study is suggested yogic exercises are very beneficial for players.

Shekhon. B.S, Shelvam P.V (2016) conducted a study on the “effect of selected yogic practice on vital capacity among university men students”. That study was randomized in two experimental groups to assess the effect of yogic exercise on Vital capacity. For the purpose of this study 30 men students were aged between 19 to 24 years were randomly divided in two groups (15 in each group) from various faculties, Nagaland University Lumani. The 1st group underwent the yogic practices programme 3 day in a week for eight weeks and the group second acted as a control did not participate in any physical or yogic practise programme. After three months reanalyzed vo₂ max of the both groups using with queens college step test, there was significant difference between experimental groups, this was in vo₂ max which was greater after yogic practices compared to yogic group, significantly improved vital capacity.

Chandrasekaran, M.R. and V. Duraisami (2016). “Effect of yogic practices on selected physiological and psychological variables among female geriatric people”. For the purpose of this study 40 geriatric people divided in to two groups namely, control & experimental group. Experimental group consisted of 20 each. Experimental group underwent eight weeks yogic practice in Pavanamuktasana series, Asana; Pranayama, Meditation and Relaxation whereas the control group did not undergo any type of training. Physiological and psychological variables were measured before and after the experimentation using the standardized tools and standard/modified questionnaires. The present statistical analysis suggest that there was a significant improvement in the experimental group on selected (physiological and psychological) variables when compared to the control group.
Suneel Rayat (2015) carried out a study entitled “effect of yoga on selected physical and physiological variables of physical education students”. For the purpose of the study 40 B.P.Ed and M.P.Ed students selected in two group first experimental (20 subjects) and second control group (20 subjects) and their age ranged 18 to 24 years during the academic year 2014-2015 from S.G.G.S Khalsa Collage Mahilpur, which is situated in Punjab India. Experimental group underwent regular yogic treatment (asana and Pranayama) for a period of 12 weeks. The parameter studied included physical and physiological variables. Effects of asana and pranayama were compared with control group before and at the end of the training programme after 12 weeks. The statistical result of the study shows significant improvement in Muscular strength, muscular endurance of arm and Shoulder, muscular strength and endurance (trunk), Speed and Agility, explosive strength of legs, speed of lower extremities and explosive strength, cardiovascular endurance, flexibility, resting pulse rate, vital capacity and Peak flow rate. So this study is suggested yogic exercises are very beneficial for students and general population.

Shiv Kant, & Mastram (2015) conducted a study and found that “Effect of yoga training on physiological variables of school level student”, in this study 30 subjects were selected randomly from Govt. Sr. Sec. School, Ugalan, Dist. Hisar Haryana. And the age of the subjects were ranged between 16 to 18 years. There were two groups randomly divided in which experimental group underwent yogic practices and other one acted as control except their daily routine. Selected physiological variables were measured like Pulse Rate, Systolic blood pressure, Diastolic blood Pressure, Respiratory Rate before training as well as after at the end of the training programme. The statistical result of the study shows significant improvement in Heart Rate, Systolic blood pressure, Diastolic blood pressure and Respiratory rate in school level students. This study has to suggest that yogic practices are beneficial for school boys improvement in Pulse Rate, Systolic blood pressure, Diastolic blood Pressure, Respiratory Rate.

Telles et al. (2013) conducted a study on the “effect of yoga or physical exercise on physical, cognitive, and emotional measures in children: a randomized controlled trial”. That study was randomized in two experimental groups to assess the effect of yoga or physical exercise on physical fitness, cognitive performance, self esteem, and teacher related behaviour. For the purpose of this study 98 school
children between 8 to 13 years were randomly divided in two groups (49 in each group) both gender. The 1st group underwent the training program yoga group practiced (pranayama, question guided relaxation and chanting) 45 minute each day 5 day in a week and physical exercise group performed blind assist after allocation using the eurofit physical fitness test battery, strop colour word task for children, Bettel’s self esteem inventory and the teacher’s rating of the children's obedience, Academy performance, attention, punctuality and behaviour with friends and teacher. After three months reanalyzed performance of the both groups using with RM anova post Hoc test work bonferroni adjusted, there was one significant difference between groups, this was in social self-esteem which was higher after physical exercise compared to yoga group, and both groups significantly improved physiological and psychological level.

**Chidambara Raja (2010)** carried out a study on the “effect of yogic practice and physical fitness on flexibility, anxiety and blood pressure”. For the purpose of this study (45) subjects working women in the age group of 35 to 40 years in various faculties of Annamalai University were selected. Subjects were divided into three equal groups of 15 subjects in each. Yogic practice Group for Yogic exercises, physical exercises group was for physical exercises and control group acted as control who didn’t participate in any training. The training period for this study was 8 weeks (5 days in a week). The criterion variables Flexibility was measured by sit and reach test, anxiety by Taylor’s Manifest Anxiety scale and blood pressure was measured by sphygmomanometer. Before and after eight weeks the training period the researcher tested flexibility, anxiety and blood pressure (systolic and diastolic). The data were analysed statistically by using “Analysis of Co- Variance” (ANCOVA). The present statistical analysis suggest that there was a significant improvement among the the experimental group on selected (flexibility, systolic blood pressure, diastolic blood pressure) variables when compared to the control group.

**Singh, R. (2010)** carried out a present study on “The effects of certain yogic Asanas and physical exercises of kinaesthetic ability”. For this purpose eighty subjects selected and their age ranged 19-21 years, were randomly divided in four groups, physical exercise group, yogic group, combined group and control group. The experimental groups underwent for twelve weeks of yogic treatment programme, both pre and post test were made for data collection. The data collection was made on
kinaesthetic ability test through Arms raising test recommended by Scott. The result analysed through (ANOVA) showed significant improvement in all the groups expect the control group, between the combined and yoga group, physical exercise group and yoga group, a significant improvements in paired adjusted final mean is seen in the mean difference obtained by asana groups was seen most significant enhancement than other groups.

Sanjib Bhomik and Gaurav Pant (2010) every student has a right to learn and develop himself as per the need of life, even they may be special students or physically challenged. He conducted a study to examine the “Effect of yogic practices on the psycho-motor variables of physically challenged students”. For the purpose of this study 40 Subjects selected from Amar Jyoti School & Rehabilitation Centre, Gwalior (M.P) and their age ranged between the 8-15 years further the two groups was divided randomly into control & experimental group. Both group had equal sample size of 20 subjects. The experimental group underwent the yoga training programme was planned for five days per week for 45 minutes each day for 6 weeks duration and was increased up to 60 minutes on weekly basis of improving the capacity of students. For the collection of data on psychomotor variables were recorded with the help of the standard tools and technique such as: Speed of movement test (SMT) by Nelson & Johnson’s, Hand steadiness by hand steadiness tester & Eye hand coordination by mirror tracking test (MTT). Consecutively the effect of yogic practices on selected psychomotor variable, statistically analysis done through the analysis of covariance technique was in work to analyse the raw data 0.05 level of significance. It was assess that F-ratio was found to be significant improvement in all the selected psychomotor characteristics i.e. Speed of movement, Hand steadiness & Eye Hand Coordination in comparison to control group 0.05 level of significance. The main purpose of the study was to found the effect of yogic exercises on the selected psychomotor performance that is Speed of Movement, Hand Steadiness and Eye Hand Coordination of Physically challenged students as a result this study has to suggest that practices of selected yogic exercise are beneficial for physically challenged students.

Kulkarni D. and Bera T.K. (2009) conducted a study on “Yogic exercise and health –A psycho-neuro immunological approach” and found that relaxation potential of yogic exercises seems to play a very important role in establishing psycho-physical
health in reversing the psycho-immunology of emotions under stress based on breath and body alertness and they also revealed that the mechanism of yogic exercises for restoring health and fitness components operating through psycho-neuro-immunological pathways is unknown. Therefore, a hybrid model of human information processing-psycho-neuro-endocrine (HIP-PNE) network has been planned to disclose the significance of yogic information processing. This study suggests on two major pathways of information processing concerning cortical and hypothalamo-pituitary-adrenal axis interactions with a deep reach molecular action on cellular, neuro-humoral and immune system in reversing stress mediated diseases. Further, the proposed HIP-PNE model has plentiful of experimental potential for objective assessment of yogic point of view of health and fitness.

James, A. (2009) conducted a study entitled “Effects of selected Asanas, Pranayama and meditation on biochemical, physiological and psychological variables on male students”. For the purpose of the study forty subjects selected at random by a lot sample technique in two group first experimental (20 subjects) and second control group (20subjects) and their age ranged 18 to 23 year during the academic year 2007-2008 from Pop john Paul II College of education which is situated in union territory of Pondicherry. Experimental group underwent asana, Pranayama and mediation practices programme for a period of twelve week, five day a week. The parameter studied included biochemical variables Blood glucose, Total cholesterol Triglycerides High density lipoprotein Low density lipoprotein, Very low density lipoprotein, physiological variables Vital capacity, Blood pressure, Pulse rate, Rate pressure product, Respiratory pressure and psychological variable etc. Effects were compared with control group before and at the end of the training programme after 12 weeks. The result of the study shows significant improvement in physiological variables, and biochemical variables in psychological variables self concept, mental health improved significantly but in personality neurosis did not show any significant changes. So this study is suggested yogic exercises are very beneficial for human being.

Shenbagavalli and Raj Kumar (2007) investigated the “effect of pranayama on selected physiological variables among men volleyball players”. Twenty four male subjects for this study were selected from Dr. Sivanthi Aditanar College of physical education, Tiruchendur randomly and divided into two groups as experimental and control groups. Data were collected from each subject before and after the training.
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The collected data were statistically analyzed by using analysis of covariance (ANCOVA). It was found that there was significant difference on selected physiological variables of resting pulse rate, breath holding time and diastolic blood pressure in the experimental group when compared to the control group.

Preetha (2006) conducted a study to revealed out the “Effect of selected yogasanas and aerobic exercises on selected physical, psychological and physiological variables” among women students from Pondicherry University. For the purpose of this study samples selected randomly age ranging between 20 to 25 years and was divided into 3 groups equally, in which two experimental groups and one Control group. First experimental group administered with aerobic exercises and second experimental group administered yogasana, the training programme was held 5 days in a week for a period of 12 weeks for both the groups. Control group did not participated any aerobic and yogic practices accept their daily routine. Before and at the end of training period, all subjects were retested for selected physical, physiological and psychological variables. Both (Aerobic exercises & yogic practice groups) revealed significant improvement on selected physical, physiological and psychological variables like flexibility, weight, and balance among experimental groups than the control.

Sharma S.K. (2006) conducted a study entitled “effect of yogic practices, physical exercises and combination of yogic practices and physical exercises on selected motor ability components, physiological and psychological variables of senior secondary school boys in Delhi”. For the purpose of the study 160 subjects selected at random sampling technique in four group first Yogic group (40 subjects) and second physical exercises group (40subjects) third group (40) combination of yogic practices and physical exercises and forth group (40) control group their age ranged 16 to 18 year, from senior secondary school, which is situated in Delhi. Experimental groups underwent their respective training programme for a period of six week. The parameter studied included selected motor ability components (flexibility, cardio respiratory endurance), physiological (resting pulse rate. breath holding time), Psychological (mental Concentration, Anxiety) variables etc. Effects were compared with control group before and at the end of the training programme after six weeks. The result of the study shows significant improvement in motor ability components variables, physiological variables and psychological variables.
improved significantly, so this study is suggested yogic exercises, physical exercises and combination of physical exercises and yogic practices are very beneficial for human being.

Chanavirut et al. (2006) conducted a study to find out the “effect of Yogic exercise increases chest wall expansion and lung volumes in young healthy people.” The purpose of this study 58 healthy young subjects volitionally were randomly selected into Yoga training (n=29) and control (n=29). Five asana from hatha yoga were selected because of their important effects on chest wall function. The Yoga training was 20 min/session and three sessions for six weeks. The matching control subjects were stayed free without Yoga exercise in a same period. Before and after practicing of yoga the lung expansion was assessed by a standard tape at three levels: upper, middle, and lower ribs. Lung volumes (tidal volume, FEV, and FVC) were analysed by a standard spirometer. Compared to pre-test, yoga practices significantly increased (p<0.05) chest wall expansion in all levels. The upper chest wall expansion increased better than the other two levels. Resting tidal volume was not improved by Yoga (0.53±0.03 versus 0.55±0.03 L). In contrast, the control subjects did not show any significant change in all measured parameters in this study. The present statistical analysis suggest that short-term Yoga practices improves respiratory breathing capacity by increasing chest wall expansion and forced expiratory lung volumes.

Madanmohan, Udupa K, et al. (2005) carried out a study on the “effects of slow pranayama and fast pranayama on reaction time and Cardio respiratory variables”. They designed to undertake a comparative study of the effect of short term (3 weeks) training in savitri (slow breathing) and Bhashrika (pranayama) on respiratory pressure and cardio vascular endurance, reaction time, heart rate, blood pressure, rate-pressure product and double product. 30 subject volunteers were equally divided into two groups of fifteen each. Group I was underwent training in savitri pranayama that involves slow, rhythmic, and deep breathing. Group II was particular training of bhashrika pranayama, which was bellows-type rapid and deep breathing. Variables were analyzed before and after three week training period. Savitri pranayama produced a significant improvement in respiratory pressures and cardio-respiratory endurance. But both the groups, there was significant but statistically insignificant shortening of reaction time. And bhashrika group improved significantly in Heart rate, rate-pressure product and double product reduction in
savitri pranayama group. It was evidence that different types of pranayama produce different physiological responses.

S. K. Ghosh (2003) conducted a study on "Effect of Physical Exercises, Yogic Practices and their Combined Training on Physiological Variables among High School Boys" he has taken Sixty subjects, and four groups of equal number: physical exercise group, yogic practice group, combined group and a control group their age ranged from 13-15 years. The three experimental groups undergone twelve weeks yogic training programme and forth group served as a control accept their daily routine. The physiological variables, namely, pulse rate, breath-holding time, respiratory rate and mean arterial pressure. The data were analysed using Analysis of Covariance (ANCOVA) followed by the Schiff’s test showed significant decrease in pulse rate, breath-holding time, respiratory rate and mean arterial pressure group accept their control group. Between yoga and combined group, yoga and physical exercise group showed significant difference in paired adjusted final mean. When there were no significant changes in pulse rate in physical exercise when compared with the combined group. Physical exercises and yogic practices are indispensable in promoting a physical and mental well being.

Tripathi & Rajeev (2004) carried out a study on “selected Effect of 12 week physical education and yogic programmes on selected physiological variables on mentally retarded students”. For the purpose of this study sixty moderately retarded children were randomly divided in four groups (fifteen from each group) all subjects age ranged between the 12 to 18 years. To determine the effect of physical education, yogic exercises and combination of both physical education and yoga programmes on selected physiological component on mentally retarded students. The physiological variables selected for the study was pulse pressure (PP), resting heart rate (RHR) and maximum breath holding time (MBHT), systolic blood pressure (SBP), diastolic blood pressure (DBP). The training programme given to the experimental groups for twelve weeks and one group served as a control. First experimental group performed jogging, running, sliding, walking, skipping and hopping: second group performed Surya namaskar with 12 steps, yoga mudra and Anulom-Vilom Pranayama. Third group performed physical Education and Yoga (Combined Programme). In the difference mean of each group Critical difference, showed that the mean difference of group A & group C, Group A & Group D, Group B & Group C, Group B & Group D,
Group C & Group D was found to be significant at .05 level of significance. The mean difference of Group A & Group B was not found to be significant at .05 level of significance. In case of Resting heart rate the sequence of the training effects of the experimental groups was Group B > Group C > Group A.

**Harinath et al. (2004)** investigated the “effect of Hatha yoga and Omkar meditation on cardio-respiratory performance, psychological profile, and melatonin secretion”. Thirty healthy male subjects the age ranged from 25-35 years volitionally for the study. The all subjects were randomly divided into two groups fifteen each. First Group subjects acted as control and practiced body flexibility exercises for forty minutes and slow running for twenty minutes during morning time and played games for one hour during evening time daily for three months. Second Group subjects performed selected yogic Asana (Postures) for forty five minutes and Pranayama for fifteen minutes in the morning time. While during the evening hours these subjects practiced preparatory yogic postures for 15 minutes, Pranayama for 15 minutes, and meditation for 30 minutes day after day, for 3 months. Orthostatic tolerance, Blood pressure, heart rate, respiratory rate, dynamic lung function (such as forced vital capacity, forced expiratory volume in one second, forced expiratory volume percentage, peak expiratory flow rate, and maximum voluntary ventilation), and psychological profile were assessed before and after 3 months of yogic practices. Sequential blood samples were drawn at various time intervals to study the effects of these yogic practices and Omkar meditation on melatonin levels. Conclusion: Yogic practices for three months resulted in a development in cardio respiratory performance and psychological profile. The plasma melatonin also showed an enhancement after three months of yogic practices. The systolic blood pressure, diastolic blood pressure, mean arterial pressure, and orthostatic tolerance show insignificant correlation with plasma melatonin. While the maximum night time melatonin levels in yoga group result in a significant correlation with well-being score. These interpretations suggest that yogic practices can be used as psychophysioologic stimuli to increase endogenous secretion of melatonin, which, sequentially might be responsible for improve the sense of well-being.

**Birkel et al. (2000)** conducted a study and found that The Hatha Yoga: Improved vital capacity of the college students. Vital capacity of the lungs (functional lung volume) is a very important component of fitness. Vital capacity is related for
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those with asthma, heart conditions or lung infirmity; those who smoke continue; and
those who have no knowledge about lung problems. Researchers studied at Ball State
University in Muncie, Indiana, The effects of yoga poses and breathing exercises on
vital capacity. The researcher measured the lung volume using the spirometer (a tool
designed especially for this purpose). Data were taken at the beginning and at the end
of two 17-week session. Control group was not used. The overall 287 college students
(89 men and 198 women) had selected in the yoga training program. 18 Sample were
trained yoga poses, breathing techniques and relaxation in 50-minute class meetings,
twice in a week for fifteen weeks. Class attendance was very high (99.96%). The
major outcome measure was vital capacity chronic asthmatics, smokers and subjects
with no known lung syndrome. The large number of subjects--287--was a suitable
sample involved in this study. The study exposed a statistically significant (p<0.001)
improvement in lungs function across all categories over time. Investigator is not
known whether this positive improvement in lung volume was the result of yoga
poses, Pranayama, relaxation or other aspects of exercise in the subjects' life. On the
other hand, these results were consistent with those of other studies. Improves in lung
capacity and function are among the trademark benefits of yoga practices as long as it
is of satisfactory quality and duration and involves a different yogic breathing
component. Earlier studies have established that when yoga-stimulate increases in
forced expiratory volume in one second (FEV-1), the factor that is maybe the mainly
functional index of lung function. This is a very important benefit for those who have
less lung volume and function from emphysema or an inactive lifestyle.

Thomas, et al. (1998) find out the Benefits of Practicing of Iyengar Yoga on
Personality traits, emotional stability, coping and cognitive states among 21 men and
36 women attending an intensive training program workshop in birthday anniversary
of Yogacharya Dr. B.K.S. Iyengar's 75th were quantified. It was hypothesized that
knowledgeable yoga practitioners would obtain higher scores on the psychological
test batteries than normative samples. Statistical analysis exposed that the coping,
energy, and self-discipline levels of the yoga practitioners were significantly higher
and, relative to norms, the temperament of the yoga experts was characterized by
emotional stability, high energy. Exhilaration and vigorousness with reduced feelings
of hostility, tension/ anxiety, and lethargy. Personal reports notified that yoga had
notable influence on the practitioner in four areas: (1) physical gains, (2) mental and
emotional functioning, (3) personal growth and (4) general life satisfaction. Findings of this study provide support for the proposition that yogic practice is associated with improved mental and physical health.

Sakthinanavel (1995) determined the effect of continuous running, yogic pranayama, and combination of continuous running and yogic pranayamic exercise on cardio-respiratory endurance, selected physiological and psychological variables. In this study sixty male school students were randomly selected to four groups. Group I practiced continuous running. Group II performed Pranayama practiced and Group III performed, the combined continuous running and Pranayama practice, Group IV served as the control group and was not involved in any kind of training. In each group subjects was trained with respective programmes for 14 weeks, 4 times a week, each training session lasted for thirty minutes. Previous to and at the end of the training period, all groups were tested for cardio-respiratory endurance, selected physiological and psychological variables. Just combined continuous running & yogic Pranayama group showed significant development on cardio-respiratory endurance & psychological variables & some of the physiological Variables excepting cardiac variables like systolic pressure, diastolic pressure, pulse pressure, mean pressure, & rate pressure product.

Schell, et al. (1994) carried out a study on “effects of Hatha yoga exercise physiological and psychological in healthy female”. For the purpose of this study all subjects were divided in two groups experimental and control group and they measured heart rate, blood pressure, the hormones cortisol, prolactin and growth hormone and certain psychological variables in a yoga practicing group and a control group of young female volunteers prior and after the experimental period. There were no significant differences between the groups relating to endocrine parameters and blood pressure. Those who were practicing yoga the heart rate was significantly different in yoga group having a significant decrease in heart rate. In the personality inventory the yoga group showed clearly higher scores in life satisfaction and decrease score in excitability, aggressiveness, openness, emotionality and somatic complaints. Significant differences could also be analysed concerning coping with stress and mood at the end of the experiment. The yoga group had got higher scores in high spirits and extravertedness.
Indirani (1993) conducted a study on the “Effects of yogasanas on selected physical, physiological and psychological variables among school boys”. As a result of yoga finding suggested that the asana effects were observed to be significant on elasticity of muscle and suppleness. The Pranayama significantly improved breath holding capacity (BHC), vital capacity (VC) resting pulse rate (RPR).

Madanmohan. et al (1993) conducted a study on the “effect of yoga training on reaction time, respiratory endurance and muscle strength”. The present study was undertaken the effect of yogic training on auditory and visual reaction times, maximum expiratory pressure, maximum inspiratory pressure, 40 mmHg test, breath holding time, after expiration (BHT exp), breath holding time after inspiration (BHT inspiration), and hand grip strength. Twenty seven student volunteers selected and underwent yogic training for twelve weeks. There was a significant (P < 0.001) decrease in visual RT (from 270.0 + 6.20 (SE) to 224.81 ± 5.76 ms) as well as auditory RT (from 194.18 ± 6.00 to 157.33 + 4.85 ms). Maximum expiratory pressure increased from 92.61 ± 9.04 to 126.46 ± 10.75 mmHg, while maximum inspiratory pressure increased from 72.23 ± 6.45 to 90.92 ± 6.03 mmHg, both these changes being statistically significant (P < 0.05). 40 mmHg test and hand grip strength (HGS) increased significantly (P < 0.001) from 35 36.57 ± 2.04 to 53.36 ± 3.95 s and 13.78 ± 0.58 to 16.67 ± 0.49 kg respectively. (BHT) expiratory increased from 32.15 ± 1.41 to 44.53 ± 3.78 s (P < 0.01) and (BHT) inspiration increased from 63.69 ± 5.38 to 89.07 + 9.61 s (P < 0.05). The findings show that yogic practice for twelve weeks results in significant decrease in visual and auditory reaction time and significantly increase in respiratory pressures, breath holding times and hand grip strength. There is evidence that the practice of yoga improves physical and mental performance.

Chinnaswami (1992) conducted a study entitled "Effects of Asanas and Physical exercise on selected physiological and bio-chemical variables among school boys”. For the purpose of this study the researcher selected 90 male students at randomly from Government Higher secondary school, the pre score was calculated for the selected Physiological and Biochemical variables, that is pulse rate, systolic pressure, diastolic pressure, blood sugar level and, haemoglobin content. The treatment programme was given for a period of six weeks for the experimental group. The analysis of result was done through (ANOVA). The haemoglobin content and blood sugar were significantly improved with the effect of Asana and physical
exercise, while the pulse rate and diastolic pressure had decreased in resting condition. There was no significant change in systolic blood pressure.

**Moorthy (1988)** carried out a study on “the effects of selected yogic practices on cardio-vascular fitness level of college men and women. In this study some physical fitness components selected namely speed, endurance and balance are common to any game or sports. The researcher felt that cardio-vascular endurance, one of the components of physical fitness, can be increase by yogic training. An investigation was conducted on sixteen (16) male students and five (5) female students, selected random sampling from the YMCA College of physical education, madras. To determine the cardio-vascular fitness, the harward step up test was conducted. All the subjects were participated in yoga training for a period of 6 weeks. The test was conducted at the end of the programme. The result shows a significance improvement in the fitness test as a result of yogic exercise.

**Seshien (1988)** carried out study on the “effect of Pranayama and transcendental meditation on the pulse rate and blood pressure of the male students of the Sourastra College, from Madurai”. There was 75 college students were randomly assigned in to three groups. The first group (25) performed Pranayama, the second group (25) performed transcendental meditation and the third group also (25) performed Pranayama and transcendental meditation. The training was given to each group with respective programmers for a period of six weeks, five days in a week from Monday to Friday and two sessions of 20 minutes duration both in the morning and in the evening training class. Prior to the knowledge and result and at the end of the training period all the subjects were tested for pulse rate and blood pressure. The obtain result that the pranayama reduced the blood pressure. Transcendental meditation has a helpful effect on systolic blood pressure only combined pranayama and transcendental meditation showed significant effect on all the physiological parameters.

**Bhargava et al. (1988)** Investigated on Autonomic responses to breath holding and its variations on twenty healthy young men, with the practice of pranayama. Breath was checked out at different phases of respiration and parameters recorded were breath holding time, heart rate systolic and diastolic blood pressure and galvanic skin resistance (GSR). After taking initial recordings, all subjects performed Nadi-Shodhana Pranayama for a period of four weeks. At the end of four weeks, same
variables were again recorded and the results were compared. Baseline heart rate and blood pressure (systolic and diastolic) showed a tendency to reduce and both these autonomic parameters significantly decreased at breaking point after pranayama breathing. While the GSR was recorded and calculated in all subjects the observations made were not absolute. And as a result of pranayama practices appear to alter autonomic responses to breathe holding probably by increasing significantly vagal tone and decreasing sympathetic discharges.

**Vadiya and Pansare (1986)** conducted a study the “effect of yoga on pulse and blood pressure among medical students – boys and girls”. The subjects were divided equal into two groups and age ranged 16-18 years of both group. One group was given yogic training for a period of six weeks while the second group acted as a control. Resting pulse rate and blood pressure was determined in both groups before starting the course and at the end of the course. Results were analysed and compared of both group. There was decrease significantly in pulse rate and blood pressure after the yoga training in both group boys and girls.

**Digamber (1985)** He states that the primary aim of Asanas and Pranayama is to build up the inborn capabilities of an human being and thus make his life fuller, wealthier, and more efficient. He further explain that these yogic practices entirely change the mental attitudes and indicate out qualities like sincerely, honesty and self actualization and contribute to health, happiness and harmony in life.

**Naruka (1983)** Conducted a study and found that “the effects o Pranayama on circulatory and respiratory functions” and found significant improvement cardio-respiratory function and decrease in pulse rate, increase in vital capacity, breath holding time and cardio vascular efficiency. He stated that Pranayama is very useful yogic breath exercises to enhance cardio-respiratory efficiency.

**Gharote M.L.(1976)** conducted a study on physical fitness in relation to the practice of selected yogic practices’ physical fitness index (PFI) of children’s increase after three weeks yogic training in yogic physical culture as studied by Fleishman battery of basis fitness test, which was mostly contributed and improvement in leg lift, shuttle run and balance. Extend flexibility, softball throw, cable jump, dynamic flexibility, 1600 yard run, pull ups did not show any significant improvement. The increase in physical index was lost during determining periods of three weeks whereas
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extent flexibility increased thereby signifying delayed effect. While compared to the result obtained for control group.

M.S. Nayer et al. (1975) conducted a study found that the effects of Yogic exercises on human physical efficiency increase significantly. For the purpose of this study 53 cadets selected from National Defence Academy. The physiological variables assessment, included ventilation, minute volume, rate of respiration, oxygen respiration, and blood pressure, pulse rate, mechanical efficiency and maximum oxygen uptake, four other assessments were made under the condition of rest, viz. Vital Capacity, Maximum Breathing Capacity, Forced Expiratory Volume (FFV 10 Sec) and Breath Holding Time. All the three groups showed significant decrease in pulse rate during the yoga exercise. The yogic group in addition recorded a highly significant increase in breath holding time (from 54 to 106 Sec and VC from 1.98 to 2.89 L/m² body surface area). The other two groups recorded only significant increase in Vital Capacity, Ventilation, minute volume, rate of respiration, blood Pressure, Mechanical efficiency maximum oxygen uptake capacity and MBC remained no changed in all the 3 groups.

Udupa et al. (1975) carried out the present study on the “physiological and biochemical changes following the practice of some yogic exercise”. They found that the twelve normal subjects decreased average systolic blood pressure after 3 months of hatha yoga practices but returned to the pre-experiment value after six months. The average change involved was a little. In contrast to the insignificance changes in resting blood pressure assessed in normal hypertension subjects who experienced yoga, there was observation of significantly reduce in resting blood pressure of hypertension who adept shavasana (Corpse Posture) with predominant of hypertension as an ailment. The serious circulatory ailments statistically associated with hypertensive segments of the populace. It is a cheering effect of research in yoga that significant proof has been found suggesting that a program of relaxation or meditation may be useful in lowering blood pressure in hypertensive patients. It also helps to sustain blood pressure in hypertensive patients and in maintaining blood pressure control while decreasing the level of drug therapy.

K.N. Udupa et al. (1975) conducted a study the effect of physiological and biochemical studies on the effect of yogic and certain other exercises. Ten young healthy educated male subjects in the age group of 20 to 23 years were randomly
selected from the university students. Eight type of Asana performed by the subjects. The researcher studied in physical and physiological examinations were, breath holding time, body weight, pulse rate, chest expansion, blood pressure, vital capacity and vital index respiration rate, and biochemical examinations were estimations of cholinesterases, cartecholamainies, plasma cortisol, monoamine oxidize, serum protein serum PBI, and blood sugar levels. It has been assessed that yogic practices enhance more vital effects than physical exercise which mostly make physical effects on skeletal muscles. Yoga Suryanamaskar appears mainly to induce the skeletal muscle with comparatively lesser influence on vital organs as is obvious from rising body weight without change in vital organ endocrine and functions. On the other hand, Yogic practices improved the serum PBI cortisol indicating and plasma improved thyroid and adrenocortical function. The Sarvangasana group (inverted hang Asanas) showed maximum increase in serum PBI which indicate that this particular asana inhabits the thyroid gland. The Suryanamaskar appears to make mainly a stressful state as is apparent form the enhance level of neurohumors and related enzymes in contrast to selected yogic practices which show to exert neurophysiological constancy as is evident form lowered levels of cholinesterase and catecholamine’s.

Gopal, et al. (1973) investigated to determine the “effects of Yogasanas and Pranayama on blood pressure, pulse rate some respiratory variables”. For the purpose of the study all male subjects were divided equally (some average height and weight) in to three group and their age ranged 20-35 year. First group was Yogasanas and second group was Pranayama third group act as control and they were given training of Yogasanas Pranayama to their respective group for the period of six months. When assessed after six months of yogic practices the various cardio-respiratory function pulse rate, Pranayama group showed a decreased in pulse rate and Yogasanas group trained but not very significantly.

Virginia S. Cowen and Troy B. Adams (2005) conducted a study entitled that “A study of certain Yogic Asanas and physical exercises on kinaesthetic ability”. For the purpose of this study twenty-six healthy subject selected and their age ranged 20-58 (Mean 31.8) participated in six weeks of either Raja yoga or Hatha yoga class. Investigator noted that Significant improvements at follow-up in diastolic blood pressure, upper body and trunk dynamic muscular strength and endurance,
flexibility, health perception and perceived stress. The improvements were found in every group when compared to baseline assessments. The Raja yoga group had decreased diastolic blood pressure and perceived stress, and increased upper body and trunk dynamic muscular strength and endurance, flexibility, and health perception. The Hatha yoga group were significantly increased only for trunk dynamic muscular strength and endurance, and flexibility. The results of the study suggest that the fitness benefits of yoga practice differ by style.

S. K. Ganguly (2009) Yogic exercises are psychophysical activities because their effects are both on body and mind. Asanas can be called as postural pattern. Maharishi Patanjali has specified one or two sutras about Asanas. Even in which we get indication that Asanas are psychophysical. Asana is postural pattern, which is steady and relaxing. We can rather say Asanas create steadiness and Sukha. Asanas bring strength in the muscles, feeling of wellness and weightlessness/flexibility. All the Asanas is not developed by Patanjali. After Asanas, practice of Pranayama is recommended which need sitting stable for a long period of time. Afterwards on other Asanas could have been added. The major principle meditative Practices: is to sit comfortably/contentedly for a long time. Go in unconsciousness in that meditative pose. Cultural Practices of yoga are very often undue in numbering. Cultural & corrective Asanas are to keep well being going. These Asanas cannot be pressed back more than medieval age. Hath yoga Pradipika describes fifteen (15) and Gheranda Samhita describes thirty two (32) Asanas. Relaxative asana practices is to relax the systems which have accumulated fatigue in muscle. Body works efficiently when different systems work very smoothly. Asanas like Bhujangasana, Shalabhasana, utkatasana and Dhanurasana etc. help a lot in this regard. Uddiyana bandha, Nauli help the diaphragm to be raised in that way giving good quality of massage from downward to the heart. Practices like Bhujangasana, Balasana Kandharasana Salabhasana, Dhanurasana /alternatively create pressure on heart. For good health, three conditions should be fulfilled. They are strong respiratory muscles with flexibility in which no air cell should remain inactive and cleansed respiratory tract. In this circumstance, Uddiyanabandha, Naulikriya and Kapalabhanti help a lot to develop respiratory muscles powerful. Deep inhalation in Shalabhasana, Kandharasana, Dhanurasana and deep expiration in Uddiyanabandha and Naulikriya help to build up elasticity in respiratory intercostals muscles even as
Kapalabhati cleanses the respiratory tract powerfully. The practices particularly like Shirshasana, Viparitkarani, and Sarvangasana work wonderfully for good health venous return. These Asanas are not available in Physical Exercise curriculum or even in "sports. Although cases like adenoids, deviated septum, populous cannot be tackled except some Asanas and other exercises that can deal with tonsils are Viparitakarani, Sarvangasana, Matsyasana, Simhamudra, and Jihva'Bandha. There are number of deference b/w Asanas and exercise as because 'the principle is very differs. It improves mental, emotional health, improves flow of blood and cardiac health. Blood runs to heart and improves when unhealthy factors removed; heart grows new blood vessels (natural "bypass"). Investigation studies done on certain Asanas upon School boys, girls, Indian Police cadets, showed good changes in health and fitness. Yogic practices as a complete give psycophysiological balance (i.e. Homeostasis) in improving Autonomic unction’s. Crimes are the acts which are banned and punished by law; these acts may threaten the security of the society, or harm any of its Human being. People are mainly probably to commit a criminal act between the age of 15 and 25 years. Imprisonment is a method of dealing with the persons who commits crimes by confining them to an equipped boundary with a certain strict rules for all that in the jail. Crimes like any other action of the body are a sign of thought. Crimes come to be regarded as basically a social problem and vengeance as the object of development is discarded.

Mohebali (1983-88) investigated the socio-psychological correlates of mental health in India and Iran. For the purpose of the study sample comprised 480 subjects (240 Indians and 240 Iranian). They belonged to male and female and different levels of mental health. Mental health status measured through PGI health questionnaire which was developed by N.N. Wig and S.K. Verma, and The Frustration Scale (FS) by N.S. Chauhan and Govind Tiwari was used to measure frustration. He reasoned that the maximum resignation frustration was seen among the Indians, but the maximum regression was observed among the Iranians. The females subjects tended to be aggressive, while the males subjects were regressive and resignative. The face appearance of frustration in aggression led to a balanced mental status; while regression resulted in neuroticism. young people both from India and Iran had extra aggression-frustration in comparison with their adult counter parts. The Indian females’ subjects had mostly more aggression while Iranian females had regression.
**Moorthy, (1982)** this study explored on minimum muscular fitness of school children of age group and their age ranged between 6 to 12 years and compared the influence of selected yogic practices and physical exercises on them. In that study, 1000 subjects were selected in which children (571 boys and 429 girls) from II standard to XI standard from three schools in Pune, 90 boys and 90 girls who had were not randomly selected for experimental intervention. 30 boys and 30 girls were randomly selected to control group. Experimental group I (Yogic Exercise) and Experimental Group II (Physical Exercises) underwent the training program for a period of 6 weeks. Researcher concluded that both experimental groups showed significant development after six weeks training when compared with control group. The improvement ratio was seen much greater in yogic group than in physical exercise group.

**Krishnan (1991)** carried out a study on the effect of exercises and yogic exercises on physiological variables among school boys. For the purpose of this study 90 students were selected from Thirumayam. There were three groups randomly divided in which two group served as experimental group and other one acted as control groups and Bharathiyam and Yogasana training given to the experimental groups except their daily routine. selected physiological variables were measured like pulse rate, breath holding time, cardiovascular efficiency and vital capacity before training as well as immediately at the end of the training. The significance difference among the means of control group, Bharathiyam group and Yogasana group, the statistical analysis pre and post test were determined by 't' - ratio. Through ancova, Bharathiyam and yogic group significantly improved the pulse rate, breath holding time, cardiovascular efficiency and vital capacity.

**Chinnasamy (1992)** carried out a study namely effects of Asana and physical exercise on selected physiological and Bio-chemical variables among school boys. In this study (n-90) male students were randomly selected from Government Higher Secondary School Karaikudi Tamilnadu India. The pre-test scores were measured for the selected variables namely systolic blood pressure, pulse rate, diastolic blood pressure, blood sugar level. The treatment group (yogasanas and physical exercises) was given for a period of six weeks for the experimental group. The data were analyzed by F-ratio through analysis of variance showed that yogasanas had significantly improved the haemoglobin content, blood sugar level, pulse rate and blood pressure.